

Sequence Listing

SEQ ID No 1

5 GTTCGACGT CATTGCCACGTTCGACCCAAGGGCAGACGCCATGTCGCCGAGCGATGCCCGATATGCCCTCGAATTT
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SEQ ID No 2

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SEQ ID No 3

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SEQ ID No 4

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SEQ ID No 5

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SEQ ID No 6

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SEQ ID No 7

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55 AACTACCAACCTGGCGCATCTGGGCCACCTCGCCCTAACAGGCGCAGGCCCTCGTCTTCATCGAAGCCACCGCCGTGCAG
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10 SEQ ID No 8
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20 SEQ ID No 9
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25 TTGGGAGGTATTGCCAGCGCCGGGGCTCTCATGATGAGTCAGGCAACCTCCGCTCACCTGAAGGGCAGAAATCACG
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40 SEQ ID No 10
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50 SEQ ID No 11
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SEQ ID No 12

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 15 YSPISNKRTDEYGSFENRTRFLKEVIDSVKSSIPNDVPVFLRISAAENSPEAWTIEDSKKLADILVEKGIALVDV
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SEQ ID No 13

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35 SEQ ID No 14

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 40 NSIVEDFANAAWRAVEISKFDAIEIHCANGLIHQFLSKLNTKRADQYGGGSFENRVRFLQIIENIKRKT
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SEQ ID No 15

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SEQ ID No 16

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10 ISNORTDQYGGSFENRTRVLREIISAVRSVIEDMPLFVRVSATEWMETGQPSWDLQQTIELAKILPDLGVVDLIDVS
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SEQ ID No 17

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SEQ ID No 18

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CTGAATGGCAGTCCAAAACGCCGTGGCTGTGCAGATCAACCACCTGGTCGCCAGACTCGATGGCGCGCAG
CGGGGACTGTGGGAGAAGGCAGGTGGCGCCCTCGCCGGTGCCTGGTGTGGAGAGGGCGTTGTGCCCTCGCTTGTG
TCGAAAGTGTCTTCGGCACGCCGGAGCTGACGGTGCAGGATCAAGGATATCGTCAAAAGTTGCCTGGTACG
45 GCGAGGATCACGGCGAGGCCGGTCAATGGCGTGGAGATCCATGCCGCATGGATACCTGTGGCGCAGTTCTG
AGCAAGAAGACAAAACAGGCCGGGATGACTATGGCCGGTCCGCTGAGAACAGGGCGAGGATTGTGGGAGATT
AAGGAGTGCAGGAGGGAGGTGACTGAGGCCGGTGAAGAGGGCGAAGAAGTTGTGGGAGATTCAAGCTGAAC
50 ATGCGGATTGGCAGGGCGCGATGGAAAGGGAGGAGGAGACGGGATACGGCGAGGGAGGTGTGAAGCAGATT
GAGCTTTTGAGCAGTGGGGATCGACTTGTGAGGGTAGCGGTGGCAGTTATGAGGATCCTCAGATGGCAACGGT
CCCAAGCCGAAAAGTCCGAAACGCACCATGGCCCGAGGCCCTTCCCTCGAGTCCGCAAGGATCATCCGCA
55 TTCCCAAGCTTCTCATGGTACCGCCGGCTTCCGACTCGTCAGGGCATGGAGGCCGTTGGAAATCGATGAT
TGCACATGATCGGTATCGGACGCCGGCATCATCAACCCCTCGCTTCCGCCACTTGATCCTCAACCCGGAGGTG
CCGGATGCGGATGCCGCTTGTGACAAGAAGAGGGCTGAGCCGACTGGATGTTGAGAAGTTGGCATGAAGTCC
ATTGTTGGTGTGGTGTGAGGGTACGTGTATGTGAGCGAGCTAAGAAGCTGGCAAGTTTGTAG

SEQ ID No 19

60 MATSTTSIDLKLSQPLTLPNGLTLPNRLVKAAMAEQMGFGNHLNPPELAAYATWARGDWGLILTGNVQVDHAHKDAH
DISPNHPGTTPEQTVTAFKAWADAARLNGQSKEPVVQINHPGRQSPMGAGTRGLWEKAVAPS PVLGEAFVPRLL

SKVLFGTPRELTVAEIKDIVQKFAVTARITAEGFNGVEIHAAHGYLLAQFLSKKTNRRGDEYGGSAENRARIVGEII
KECRRQVTEAVGEEEAKKFVVGIKLNSADWQAGRDGKEEEETDTAEEVLKQIELFEQWGIDFVVEVSGGSYEDPQMANG
PKPEKSERTMAREAFFLEFAKIIRTKFPKLPLMVTGGFRTRQGMEEAALESDDCDMIGIGRPAAIINPSL PANLILNPEV
PDADARLFDKKRAEPHWIVEKLGMSIVGAGVEVTWVYSELKKLAKF

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SEQ ID No 20

30

SEQ ID NO 21

35 ATGTCGGCAGAAAAGAAGACTTTGAGCAAACCGGCCGCCGGGTGCCTACTACACCCAGGCCAGGAGCCGCCGCA
GGGACCCCTTGCAGCAGCAGGCCATCCAAACGCTGTTCAAGCCTCTGAAGATCCGTGCGTCGAGCTCTCCAAAC
CGCTTTGGCGTCTGCCCATGTGACCTACTCAGCCGACGATGGCCACCTGACCGACTTCCACTTGGTCACCTGGC
CAGTTGCCCTGACGGCACGGCCCTGACCATTTGCGACCGACATCCGTACGCCAACGGACGATCTCGCCCCGAG
GACAGCGGCTGTGGCAAGACAGCCAGATCGCTCTCGCCGCATCGTCGACTACGTGCAACAGCCAGGGCCAAAAG
ATCGCCATCCAATCGCTCATGCCGCCGCAAGGCCAGCACAAAGGCCCTGGCACGACTCTTCACCCCCAGCGC
40 GAGTATAAGCGAGAGAGGGCTTACAGGTGTCGGACCCAGTATGGCGGCTGGCTGATGACGTCGGGCCCCGAGC
GCCATCCCGTTCTCGGAGGACTTCCGAACCCAAAGGAGATGACCGTTGAGGAGATTGAGGAGACTCGTCACCAGTT
GTGGACGCTGCCAACGCGTGCATCGAGGCCGCGTCGACATTATTGAGATTACCGCGCTCACGGTACCTGATCAC
GAGTTCTTCGCCGTATCAAACAAACGGACAGACAAGTACGGCGCAGCTTGAGAACCGCACCGGGCTCTGATC
GATATTATCAAGGCCGCCGGCAGTGAATTCCCAGGAGATGCCACTCTCGTCCGAATCTCGCAGCGAATGGATG
GAGTACGCCGGCAGCTAGCTGGGACCTGAGCAGAGCACACAGCTTGCCAAGCTCTCCGGACCTGGGTGTCGAC
45 CTGCTCGACGTCAGCTGGCGGAAACTCGTGGCCAAAAGATCGAGCTCACGCCGACTAACAGATCGACCTGGCA
GCCAAGATCCCGAGGGCGTCGGCGATAGGTGTCATAGGCGCGTCCGGCAACATCAACACGGCTGACATTGCGC
GATGTCGTTGGATGAGCAGGGCGCCGAGAAGGGCGGAGGCCAACAGACGATGACACCATCTGAGGCTGAGCGAA
TCACATGGCGGCAAGACCAAGGCCGGATCTGGCTCTATTGCTGCCAGTTCTGCGCAGCCTGAGTTGTGTCGAGG
50 ACGGCGCATAACCTTGGGTCAATGTGCACTGGCCTCACCAATACCAACAGAGCAGTGTGGCGCAAGGGTGCAAGGATT
TGA

2000

SBQ ID NO 22

60

SEQ ID No 23

5 ATGACTATTGTTAATGAAGGAGCCGAAATGTTGGTTATTTACACCTGCCAAAAAATACCAGCTGGAGCGGGCGATA
 GGTGTACCGCAAACAAAATTATTTACTCCTCTAAATTAGAGGAGTGGAGTCATAACAGAATGTTGTTGCCG
 ATGTGCACTTATTCCGCTGACCAAGAAGGGCATTGACAGATTTCACCTAGTACATCTGGAGCGATGGGAATGCGT
 GGGCTGGCCTTGTATGGTAGAAGCGACAGCGTTCCCCAGAGGGACGAATTACACCTAATGATTCAAGGATTATGG
 ATGGAGTCGCAAATGAAGCCGTTACGAAGAATTGTTGAATTGCTCATTGCAAATCAGGAAATTGGGATTCAATTG
 GCGCATGCTGGTAGAAAGGCTAGCACCCTGCTCCTATCGAGGATAACACAGTGCAGTGAAGCTCAAGGTGGTGG
 10 10 GAGAAATGATGTTATGGACCAAATGAAGACAGGTGGAGCAGAAACCACGCTCACCTCATAAGTTAATGAAAAGCAA
 TATGATGAATTAGTGGATAAGTTGTTGCTGCGAAGCGTGCAGTGAATAGGTTTGATGTAATTGAAATTCAAT
 GGCCTCATGGTTATCTTATCGTCAACAGTTAGTCCCTGCCACTAATGACCGCAATGACAAGTATGGTGGGACATT
 GAGAAACGTTTTGTTCTATGGAAGTGTGCAATTCTGTTGCAAAGCAATTCCAGATAGTATGCCCTTGTGTTTAT
 15 15 AGAGTAACGGCTACAGATGGTGGCCCAAAGGACAAGGATGGGAGATAGAAGATACAGTGCATTAGCAGCAGGCTT
 CGCGATGGTGGTGTGACTGTAGATGTTAGCTCTGGTAGAATCACAAGGATCAAAGAATTGAGGTGAAGGATTGC
 TATCAAGTTCCCTTTCGGAAAAGATTAAGGATCAAGTGAATGAAATACTACTTGGCGCTGCGGAATGATCAGGGAT
 GGTCTTACGGCGAATGAAATCCTAGAAAGTGGAAAAGCTGATGTTACTTTGTCGCAAGGGAGTTCTAAGGAACCCG
 TCGTTGGTGTAGACAGCGCAACCAGTTGGGTGAAATGTTGCATGCCAGTTCACTATGACTATGCAGTTAAGGGA
 20 20 CACAGAAAGTTACGTTGA

SEQ ID No 24

MTIVNEGAENVGYFTPQKIPAGAAIGVPQTKLFTPLKIRGVFHFNTNRMFVSPMCTYSADQEGHLDFHLVHLGAMG
 MRGPGLVVMVEATAVSPEGRISPNDGLWFTMESQMPLRRIVEFAHSQNQKIGIQLAHAGRKASTTAPYRGYTVATEA
 25 25 QGGWENDVYGPFTNEDRWDENHAQPHKLTEKQYDELVDKFVVAKRAVEIGFDVIEIHGAHGYLISSTVSPAFTNDR
 NDKYGGTFEKRILFPMEVVHSVRKAIPDSMPLFYRVTADWLPKGQGWEIEDTVAFTLARLIRDGGVLDIDVSSGNH
 KDQRIEVKDCYQVFAEKIKDQVNGILLGAVMIRDGLFTTANEILESGKADVTFVAREFLRNPSLVLDSANQLGENV
 AWPVQYDYAVKGHRKLR

SEQ ID No 25

CGAAACCTCGACCCAAACAAACAGCTGACCCCTCCTTGACAACAAAGCCGCCATCCTGCCGACGATTGCCCTAC
 CCCCACATAGTCACACTCGCACGTCCGTTCTCCACCGTCAAACAGACAGCATGACGGGCACCGCGAACAGGCC
 CCCGGTGTGCCGTTTACACCCCGGCCAGGAGCCTCCGCGGGAACGCCAGTCGACGCCAGCACGGCTCCGACGCTC
 30 30 TTCAAGCCCTCCGCATCCGCACCTCACCATCAACAAACCGCATTGGGTCAAGCCCATGTGCCAGTACTCCGCC
 AATGGCACCGCAGCTACACACCTCGTCCACCTGGGCCAGTTCGCGCCCTGCACGCCGCCCTGTCCATGGTCAG
 GCCACCCGCCGCTGAGGCTCGTCCGCGCATCTCCCCCGAGGATGTCGGTTGTCAGGACTCCGAGATTGCGCCCTG
 AAGCGCATCGTCGACTTATCCACTCGCAGAACCGAGGCTCGCGCCATCCAGCTCGCCACGCCGGTCGAAGGCTAGC
 40 40 ACCCTGGCACCGTGGATCACCGAGGCTCGCGCAAGGCCTGGCTCAGGAGAGCGAGAACGGCTGGCCGACGCGT
 GTGGCTCCACCGCGATTCTTACACCAAGGACTGGCACACCGCGTGAAGTTGACTACCGAGGRRGTCGAGGGTCTG
 GGTGAAGAAGTTGCCAGTCGGCCAAGAGGTCAAATCGAGCTGGTTGACGTATTGAGATCCACGCCGCTCA

SEQ ID No 26

45 ATGACGGGCACCGCGAACAGGCCGCCCGGTGTGCCGTTTACACCCGGCCAGGAGCCTCCCGGGGAACGCCA
 GTCGACGCCAGCACGGCTCCGACGCTCTCAAGCCCTCCGATCCGCGACCTCACCATCAACACCGCATCTGGGTC
 AGCCCCATGTGCCAGTACTCCGCCGACAATGGCCACCGCAGCAGTACCAACCTCGTCCACCTGGGCCAGTTGCCCTG
 50 50 CACGGCCGCCCTGTCCATGGTCGAGGCCACCGCCGCTGAGGCTCGTGGCCATCTCCCCGAGGATGTCGGTTG
 TGGCAGGACTCGCAGATTGCCGCTGAAGGCCATCGTCACTTATCCACTCGCAGAACCCAGGTCGCCAGTCCAG
 CTCGCCACGCCGGCTCGCAAGGCTAGCACCCGTGGATCACCGAGGCTCGCGCAAGGCCCTGGCTCAGGAG
 AGCGAGAACGGCTGGCCGACGAGCTGGCTCCAGCGCAGTCCCTACACCAAGGACTGGGCCACACCGCGTGAG
 TTGACTACCGAGGRRGTCGAGGGTCTGGGTGAAGAAGTTCGCGAGTCGGCCAAGAGGTCAAATCGAGCTGGTTTGAC
 GTCATTGAGATCCACGCCGCT

SEQ ID No 27

55 MTGTANKAAPGVPFYTPAQEPAGTPVDASTAPTLFKPLRIRDLTINNRIWVSPMCQYSADNGHATDYHLVHLGQFAL
 HGAALSMVEATAVEARGRISPEDVGLWQDSQIAPLKRIVDFIHSQNQVAAIQLAHAGRKASTLAPWITEARGKALAE
 60 60 SENGWPDDVVAPSAPIYTKDWATPRELTTEXSRVWVKFAESAURSNRAGFDVIEHAA

SEQ ID No 28

5 GAACTGCTGTAGATGTGGTTGAATTGGTATATTAGACCGGAGTACTCTATATGCGAGAGACTATACATTGAAGTTGCC
 AACGTTCTTCCAGATTGATTAAATCATGGCTTACGAGATAATCGACAACGTTGCGGCTGAAGGGTTCATATTACACA
 CCGGCTCAAGACCCGCCAGCTGGTACGCAGACAAGCGGCTCAACGAAGCTATTACACCCATCACCATCCGCGCGTC
 ACATTCCCAAACCGCCTTCTCTGCCCCCTCTGCGCAATACTCGCCAAAGATGGTTATGCCACTGATTGGCACTTG
 ACTCACCTCGGGGAAATAATCCAAGAGGCCCCCGATTGTCATGGTGGAGGCTACCGCTGTACAAAACCACGGTCGC
 10 ATCACACCTCAGGATGTTGGTCTGTGGGAAGACGGCCAGATCGAGCCTCTGAAGCGCATCACCACTTCGCGCACAGT
 CAGAGCCAGAAAATGGTATCCAGCTGCGATGCGGTCGAAGGCCAGTGGCTATCTCCCTGGCTAAGCGTAAAT
 GCTGTCGGCGGAGAAGACTGGTGGCTGCCAGACAATATCGTGTCTCCCTGGCCATCGCACAAGAAAATGGTGTG
 AACCCAGTCCCCAAGGCTTCACGAAGGAGGATATAGAGCAACTCAAGAGCGACTACGTGGAAGCGCAAAACGAGCC
 15 ATCCATGCTGGTTCGATGTTATCGAAATTATGCAGCTCATGGATATCTACTGCATCAATTCTTGAGTCCGGTAAGC
 AATCAAAGAACCGACGAGTATGG

SEQ ID No 29

20 ATGGCTTACGAGATAATCGACAACGTTGCGGCTGAAGGGGTTCCATATTACACACCGGCTCAAGACCCGCCAGCTGGT
 ACGCAGACAAGCGGCTCAACGAAGCTATTACACACCCATCACCATCCGCGGCTCACATTCCCAAACCGCCTTCTCCTT
 GCCCCCTCTGCCAATACTCCGCCAAAGATGGTTATGCCACTGATTGGCACTTGAACCTCGACCTCGGGGAAATAATCAA
 AGAGGCCCGGATTGTCATGGTGGAGGCTACCGCTGTACAAAACCACGGTCGCATCACACCTCAGGATGTTGGCTG
 25 TGGGAAGACGCCAGATCGAGCCTCTGAAGCGCATCACCACTTCGCGCACAGTCAGAGCCAGAAAATTGGTATCCAG
 CTGTCGATGCGGGTCGCAAGGCCAGTGGCTATCTCCCTGGCTAAGCGTAAATGCTGTCGCGGCGAAGAAGTGGT
 GGCTGGCCAGACAATATCGTGTCTCCCTCGGCCATCGCACAAGAAAATGGTGTGAACCCAGTCCCAAGGCTTCACG
 AAGGAGGATATAGAGCAACTCAAGAGCGACTACGTGGAAGCGCAAAACGAGCCATCCATGCTGGTTTCGATGTATC
 30 GAAATTATGCAGCTCATGGATATCTACTGCATCAATTCTTGAGTCCGGTAAGCAATCAAAGAACCGACGAGTATGG
 SEQ ID No 30

30 MAYEIIDNVAAEGVPYYTPAQDPAGTQTSGSTKLFTPITIRGVTFPNRLFLAPLCQYSAKDGYATDWHLTHLGGIIQ
 RGPGLSMVEATAVQNHGRITPQDVGLWEDGQIEPLKRITTFAHQSQKIGIQLSHAGRKASCVSPWLSVNAVAAEVG
 GWPDNIVAPSIAQENGVPVPKAFTKEDIEQLKSDYVEAAKRAIHAGFDVIEIHAHGYLLHQFLSPVSNQRTDEY

SEQ ID No 31

35 TTTGGATGGTATAATAATAATTCTATTGTGAAACATACGGGGCTGGTCTTGATCAAGAACGGTCCATCTATGGCTA
 TAAAGAACTCTTGTTCACTTCTTCCACGTCCCTGAAGCTCCAATCAATCTGGTCGCCATCTTGACCTCCACGCC
 AAGCTCGTTAGCAAAAGCTGAACCAGACAGGATTCTGGAAACCAACGTCAGCCCTCACATGTCGATACCAGA
 40 TTGCAAAACCTCTCAGCAAGATGTCAGCTTGAACCTGGTAAGCAGGACGGACTGTGATGGCGATGGCGACTTAGGATGGATACCGCC
 CTTTACCTGTTGGCAGGCTACCTGGTAAGCAGGACGGACTGTGATGGCGATGGCGACTTAGGATGGATACCGCC
 TGAGCTGACGTCCACCAAGTCTACTCATGCTGGCAAGATAACGCGCGAGTTGACAAGTCTGCTCGACTGTCCAGCT
 TTCAGGAAACTCGTCTTGAAATTGAGAGTCAAACTCGAACCAATCAGTTGCAACTGACACGAACGAGGACAGGTGTAGT
 45 TTCAGGGATGGCAGCGCGATGAGGTCAAGGATTCCAAGACAACCTGTGATACGGTTCTCGAAACTGCCACCATACTC
 GTCGGTT

SEQ ID No 32

50 AACCGACGAGTATGGTGGCAGTTCGAGAACCGTATCAGAGTTGCTTGGAAATCCTGACCTCATCCGCGCTGCCAT
 CCCGAAACTACACCTGCTCTCGTCAGTGCAACTGATTGGTTGAGTTGACTCTCAAFTCAAAGACGAGTT
 TCCTGAAAGCTGGACAGTCGAGCAGACTTGTCAACTCGCGCTATCTTGCCCAAGCATGGAGTAGACTTGGTGGACGT
 CAGCTCAGGCCGTATCCATCTGAAGTCCGCACTCGCCATCAAGTCCGGCTCTGCTTACCAAGGTAGACCTCGCCAAACA
 GGTAAAGAAGGCTGTTGGCAGATAGTGTACTTGTGTTGAGCAGTAGGTGGAATCAAGACTGGACATCTGCTGAAGAGGT
 TTTGCAATCTGGTATCGACATTGTGAGGGCTGGACGTTGGTCCACAGAAATCCTGGTCTGGTCAAGCTTGGCTAA
 CGAGCTTGGCGTGGAGGTCAAGATGGCGAACCGAGATGATTGGAGCTTCAAGGGACGTGGAAAGAAAGTGAACAAGAG
 55 TTCTTTATAG

SEQ ID No 33

TDEYGGSFENRIRVVL EILDLIRAAIPETTPVLVRVSATDWFEFDSQFKDEFPE SWTVEQTCQLARILPKHGVDLVDV
SSGGIHPKSAIAIKSGPAYQVDLAKQVKAVGDSVLVSAVGGIKTGHLAEEVLQSGIDIVRAGRWFQQNPGLVRAFAN
ELGVEVKMANQIDWSFKGRGKKVNKSSL

5 SEQ ID No 34
AGGAAGTTGCATGTCAGTTGAGTGACAGGGCGTCGTGAAATTATAAAACCTATACTTGTGTTGTTCACTTCTAT
GCTACTCATATCAATCCGAGAAGATCAAACAGTCCCCTACACACTTGTCAAGACACTATCTATTATTCAAAATCA
GCAATATGGCTGAGACAATGCTAAGTGTGAGGCAAATGGCCATCACAAATCATCATCAATAAGGAAGCTCCGAATG
10 TTCCCTTCTATACTCCAGTGCAAGATCCACCAGCAGGAACGTCTACGATGTTCAAGCTGAAGGAAGCCTATTCTC
TTATTAAAATAGAACACCTGACTCTTCAAAACCGGATTTTGTCTCCCAAATGTGTCAATTACAGCAAAGGATGGTG
TCATGACCCCCCTGGCACAAACACCTGGGCAGCTTCGAGCAGGAGGTCCGGGTCTCATGTACAGAAAGTCACG
CAGTTTCAACAGAGGGACGAATCAGTCCTGAGGATGCAAGGCTACAGATGATGGCAGTTGGACCTCTCGGGATA
TGTGGACTTTGTACACAGCCAGGGCGCAAGATTGCTATTCAAGATAGGTATGCTGGGAGAAAAGCGAGCACAGTC
15 TACCGTGGCTGGACCGCAAGAACACTGCTTTA

15

SEQ ID No 35

MPKCEANGHHKIIINKEAPNVPFYTPVQDPAGTSYDVQPEGSLFSLIKIRNLTLQNRIFVSPMCQYSAKDGVMTPWH
20 KQHLGSAARGPGLIVTEVNAVSPEGRISPEDAGIYDDGQLGPLRDIIVDFVHSQAKIAIQIGHAGRKASTVVWLDR
KNTAF

SEQ ID No 36

25 GCACGAGGGATTATTGACAACATCGGGCTGAAGGGGCTCCCTACTACACGCCCTGCTCAAGACYCTCCAGCAGGCACA
CAGACCAGCGGCTCAACCAAGGTTTCACACBCATCACCACCGAGGCGTCAACATTCCCAAACCGTCTTTCTGCC
CCTCTCTGTCAATACTCCGCCAAAGATGGATATGCTACTGATTGGCACTTGACTCATCTGGAGGCATTATCCAACGA
GGCCCGGGACTGTCCATGGTAGAGGCCACCGCTGTTCAAACACCGGTCGATCACGCCCTCAGGACGTTGGTCTCTGG
GAAGATGGACAAATCGAGCCCTTGAAGCGCATCACTACTTTGCCACAGCCAAGCWCAAGAAGATTGGTATTCA
30 TCTCGCACGCTGGTCGTAAGGCTAGTTGTATCTCCGTGGTTGAGCATCAACGCTGTTGCCGCTAAGGAAGTCGGTG
GCTGGCAGACAACATTGTTGCTCTTCTGCCATCGCACAAGAAGCTGGCGTGAACCCCTGTTCCAAGGCCCTTCACCA
AGGAGGATATCGAGGAACTCAAGAATGACTTTCTGGCTGAGCMAAACGAGGCCAWCCGCGCTGGTTTGATGTCATCG
AGATCCATGCAGCTCATGGATACTGCTTCACCAGTTGAGTCCAGTCAGTAACCAAAGAACCGATGAGTATGGTG
35 GCAGCTTCGAGAACCGTATCAGAGTCGTTGGAGATCATTG

35

SEQ ID No 37

GCACGAGGGATTATTGACAACATCGGGCTGAAGGGGCTCCCTACTACACGCCCTGCTCAAGACYCTCCAGCAGGCACA
CAGACCAGCGGCTCAACCAAGGTTTCACACBCATCACCACCGAGGCGTCAACATTCCCAAACCGTCTTTCTGCC
CCTCTCTGTCAATACTCCGCCAAAGATGGATATGCTACTGATTGGCACTTGACTCATCTGGAGGCATTATCCAACGA
40 GGCCCGGGACTGTCCATGGTAGAGGCCACCGCTGTTCAAACACCGGTCGATCACGCCCTCAGGACGTTGGTCTCTGG
GAAGATGGACAAATCGAGCCCTTGAAGCGCATCACTACTTTGCCACAGCCAAGCCAGAAGATTGGTATTCA
TCGCACGCTGGTCGTAAGGCTAGTTGTATCTCCGTGGTTGAGCATCAACGCTGTTGCCGCTAAGGAAGTCGGTG
TGGCCAGACAACATGTTGCTCTTCTGCATCGCACAAGAAGCTGGCGTGAACCCCTGTTCCAAGGCCCTTCACCAAG
45 GAGGATATCGAGGAACTCAAGAATGACTTTCTGGCTGAGCMAAACGAGGCCAWCCGCGCTGGTTTGATGTCATCGAG
ATCCATGCAGCTCATGGATACTGCTTCACCAGTTGAGTCCAGTCAGTAACCAAAGAACCGATGAGTATGGTGGC
AGCTTCGAGAACCGTATCAGAGTCGTTGGAGATCATTG

45

SEQ ID No 38

50 ARGIIDNIAAEGAPYYTPAQDXPAGTQTSGSTKVFTXITIRGVTFPNRLFLAPLCQYSAKDGYATDWHLTHLGGIIQR
GPGLSMVEATAVQNHGRITPQDVGLWEDGQIEPLKRITTFAHQSQKIGIQLSHAGRKASCVPWLSINAVAKEVGG
WPDNIVAPSIAAQEAGVNPVPKAFTKEDIEELKNDFLAAXKRAXRAGFDVIEIHAAHGYXLHQFLSPVSNQRTDEYGG
SFENRIRVLEII

50

SEQ ID No 39

55 CCTCAAGATCCGAGGTCTTACCCCTCCAGAACCGTATTATGTTGAGGGGCTCTGCCAGTACTCTGCTCCCGACGGACA
CTACACAATGTGGCATCACACCCACATGGGCGGCATCATCCAACGCCGCTCCGGACTCACCTGCGTTGAAGCCACAGC
CGTGACTCCTCAAGGTCGCATCACGCCCTGAAGACGTCGGTATCTGGCAAGATTCTCAGATCGAGCCTTGCCTAGG
CGTAGGTTGCCACCTCCAGAACAGAACGATCATGATTCAAGTGGCGATGCCGAGCAGGATGTCTGGGCCAGTGC
ACCAGGTTAACGGCGGCGATGTTGCTGGTGAGGACGTCACCGATGGCACAGGATGTCTGGGCCAGTGC
60 TCCATGGAACGAGAACGACGCTGTCCCAAAGGAGATGTCGTTGGATGATATCGAGGCTTCAAGAAGCGTTGGAGA

GGCGGTCAAGCGGGCATTGAAGGCTGGATTTGATGTTATTGAGATTACAATGCTCACGGATACCTCCTCCACGAATT
CATCTGCCTGAGAGAACACCAAGGACCGACAAGTACGGGCGGAAGCTGGAAACCGCAGTCGCTGACAATGGAAAG
TCGTCGACCTTGTCCGCAGCATT

5

SEQ ID No

40LKIRGLTLQRIMLRLCQYSAPDGHTMWHHTHMGIIQRGPGLTCVEATAVTPQGRITPEDVGIWQDSQIEPLA
KVVEFAHSQNQKIMIQLAHAGRKASTVAPLSSGDVAGEDVNGWPQDVWPSAIPWNEKHAVPKEMSLDDIEAFKKAF
GEAVKRALKAGFDVIEIHNAGYLLHEFICL RATPGPTSTGGSWENRRLTMSRRPCPQH

10

SEQ ID No 41

GAATGCCGAGTAAACGCGCCGGCAAGGAGGCGGGAGGATGGCCGGAGGATGTTGTGGTCCGTCGGTGGGGAGGACT
TTACGTGGGATGAGAGGTCTCGAGCGACCCCTAGTGGAGGCTACTATGCGCCGAGAGAGATTGTCGGTCAAGAGAGATCA
15 AGGAGATGGTCCAAGACTGGCGACAGCAGCGAAAAGGGCGGTGAAAGCGGGCGTGGATGTAATCGAAATCCACGGCG
CGCATGGGTACCTCATCCACGAATTCTCTCACCCATTACCAACCGCCGGACAGATTCTACGGCGGTTCTTCGAAA
ACCGTACCCGTCTACTCATTGAAATCGAACAGCGTCCGAGCCGCGATGCCCTCCAGCAGTCCTCTTCCTCCGCC
TCTCCTCTACAGAATGGATGGAAGATAACCGACATCGGCAAGAAGTTGGAAGCTGGGATGTCGAAAGCAGATCAAGA
20 TCTCCAAAATCTGGCCGACTTGGCGTTGATCTCCTCGACGTGTTCCGGTGGGAATCATCCTCAGCAGAAAATCA
ACATGTTCAACACC

SEQ ID No 42

LPSKRAGKEAGGWEDVVGPSGGEDFTWDERSSSDPSGGYYAPRELSVREIKEMVQDWATAAKRAVKAGVDVIEIHLA
25 HGYLIHEFLSPITNRRTDSYGGSFENRTRLLIEIVTAVRAAMPSSMPLFLRLSSTEWMEDTDIGKKFGSDVESTIKI
SKILADLGVDLLDVSSGGNHPQQKINMFNT

SEQ ID No.

ATGCCCCACCGCTTCAAGCGGGCCCTGCCGACCCCTCACCGCTCGGCACGCCGCTCAAATACCCGTCTCGGGG
30 CGGTCGGCGCCAACCGGTTCTCAACCGGGCATGTCGGAGGGCTGGCGACGTTGACGAGGCGGACCCGTCAAG
CGCGGCATCCCGACGGAGCAGCTGGTGCAGCTGTACCGCGCTGGGCCAGGGCGAGTGGGCCAGATCCAGACGGC
AACGTCAATGATCGACCCGGAGCACCTCGAGGCCCGGGCAACATGGTGGTCCGCGCAGCAGCCGAGCCCTGGCGAG
CGCTTCGACATGTTTCCAAGCTCGCGCCGCCAGGGAGCACGGCAGCCTCATCGTCGCGCAGGTCGGACACCCC
GGTCGCCAGGCCCGCGCAGCTCCAGCAGCACCCATTAGCGCAGCGACGCTTAAGCAGGGAGATGTTGGG
35 TCAAAGTTGGCGTCCCGAGGGCCGCTACCAAGGAGGATTAAGCGGGTATTGAGGGTTTGCCACACGGCGAG
TACCTTGAAAAGGCCGGTTCGACGGTATCGAACCGCCGACGGTACCGCCAGCTCGAAACCGCATGCGCTAACCTCGAG
ACAACCAACCGCCACCGACGAGTACCGCCAGCTCGAAACCGCATGCGCTAACCTCGAGGTACGGCGAG
40 GTCCGCAGGCCGAGCAAGAATTTCATCTCGGCATCAAATAACAGCGTCGAGTTCCAGGAGAAGGGTTCAAG
CCAGAGGAGGCCGTGAGTTGCGAGGCCCTCGAGGCCGCGGAGTGGATTGTCGAGACGAGGCCGGCACCTAT
GAGAGTTTGGTTTGCGCACCGCAAGGAGTCCAGCCGAAGCGGGAGAACTATTTATCGAGTTGCCAGGTCTC
CGCAAGGCCGTCAACACATGGTGGTCTACACCACGGCGGCTCAAGACGGTGGCGCCATGGTCGACGCCGCTCAG
GGCGTCGATGGGATAGGCATCGGGCGCGAGCCGGTTCGGAGCCGGACCTCGCCAAGGACATCATCGCGGCAAGGTG
TCCAGCATTATCAAATAACGCCATGGGGAGGACGAGTTGTGCTGAGTTGACTGCCCTCGCGCAAATAAGGCTG
45.. ATGGCCAAGGGCGAGGAGCCGTTGACATCTCAAACGCCGACGAGGTGGCGGGTGACCGAGTTGATGGCGGAGGGC
AAGGTG

SEQ ID No. 44

MSPPRFEEAAPADPSPLGTPLKYPVSGRSAPNRFILNAAMSEGLATFDEADPSKRGIPTEQLVQLYRRWGQGEWQIQTG
50 NVMIDPEHLEAPGNMVPRDAEPSGERFDMFSKLAAAKEHGSILIVAQVGHPGROARGSVQOHPISASDVLQKQEMFG
SKFGVPRPATKEDIKAVIEFAHTAEYLEKAGFDGIELHAAHGYLLAQFLSETTNQRTDEYGGSLENRMRLILEVTAE
VRRRTSKNFIKGKINSVEFQEKGFKPEEAVQLCEALEAAGMDFVETSGGTYESFGFAHRKESSRKRENYFIEFAEVI
RKAVKHMVYTTGGFKTVGAMVDALQGVDGIGIGRAAGSEPDLAKDIIAGKVSSIKYAMGEDEFVLQLTACSAQIRL
MAKGEEPFDISNADEVARVTQLMAEGKV

55

SEQ ID No. 45

AGCTTAGACCTACAGAGAGCATTGCTACTGTAAGTTGATTTGCCCTCTCGCATAGAACAAAATAACTGATGGTG
TAGGTATAAAACTAGCATCCTCTCCACCTTCAGATCCCCCTGACAAGCACCTTATGGCTTTCGATGGAAACAGCTA
60 TTCCCTCTACTGGTAAAATAGGATACCAAGAGGCTACAATCAATACACCCCTCGATAGAGGCTGTCGAATGTGGCAAC
TGGCAACGCTGCGGTTAGTCATCGTCGGAGACTTCTGGGATTCAATTCTCCGAGTCCTCCGCTGCTTATTAAGGC

ATCAATCTGGATGCTCCACTGTGGTACATCCAATTTCGATTTCTTCGGCAGAGGAAGGATTCCACTGGTCAGT
CTAGGCATTTAGAAGATCAAAGCTGTCCTGTACCTCCGTACCTGGGTGTTCGACGTATGCCACGTTCGACCCAAG
GGCAGACGCCATGTCGCCAGCGATGCCCGATATGCCCTCGAATTGCGCCATTGGCATCCAGTTCCAGTGCCCT
TCCCCGAATGACTGTCTCCACTATTGGCAAGATTGTAATCAAGCCTGAAGAAGCGGAGCATTCTTGGAAAGTCGTAT
5 GTTCTACTGATTCTGTGCCTGGCGCAGACGGGTATATAATAAGATCACGCACCGGAGGTTCTTA

SEQ ID No. 46
GTTCGACGTCATTGCCACG

10 SEQ ID No. 47
CCTTGATCGTTGCTGAGCG

SEQ ID No. 48
ATGACTGTCGCCGATATCG

15 SEQ ID No. 49
CTATACATCGAAAATAGACTGC

SEQ ID No. 50
20 CCGTCCTGGCGGGAGTATTGGCAGAG

SEQ ID No. 51
GCGAATCAGATTCTAGAGGAGCAGGATATCG

25 SEQ ID No. 52
GCTCAGCACCTCGGCCGTCGAAATCTCC

SEQ ID No. 53
30 TCTGCCAATACTCCGCC

SEQ ID No. 54
CTTTCGGCCGGCATG

35 SEQ ID No. 55
GGTATTGAGGGTCCGATGACTGTCGCCGATATCGA

SEQ ID No. 56
AGAGGAGAGTTAGAGCCTACATCGAAAATAGACTGCTTGTACACC

40 SEQ ID No. 57
GGTATTGAGGGTCCGATGTCGCAACCTGTTGTG

SEQ ID No. 58
45 AGAGGAGAGTTAGAGCCTATATCTTCTCGAGTTCTCC

SEQ ID No. 59
GGTATTGAGGGTCCGATGGGTCCAACGCCCTTC

50 SEQ ID No. 60
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SEQ ID No. 61
GGTATTGAGGGTCCGATGGCTCTCCCTGACGTCGAAA

55 SEQ ID No. 62
AGAGGAGAGTTAGAGCCTACTCAAAGATGCTCTCC

SEQ ID No. 63
60 GGTATTGAGGGTCCGATGACAGTTCCATACCAAG

SEQ ID No. 64
AGAGGAGAGTTAGAGCCTAATTACTTCTAATTAGATGTT

5 SEQ ID No. 65
GGTATTGAGGGTCGCATGTCGGCAGAAAAGAAG

SEQ ID No. 66
AGAGGAGAGTTAGAGCCAAATCCTGCACCCCTGCGCC

10 SEQ ID No. 67
CAGACCAATGCCAGAAGA

SEQ ID No. 68
AGATGGCGATGTGGTAGTC

15 SEQ ID No. 69
gccgcttacagggaatgata

SEQ ID No. 70
atggctcaatctgcgagtct

SEQ ID No. 71
CGACTCTTGTGGGTGCTGTA

25 SEQ ID No. 72
GTGGAAAACACCCATTCTGG

SEQ ID No. 73
CCCCAATCGTCAGATGAAGT

30 SEQ ID No. 74
CTGGCCCACGATTCACTAAT

SEQ ID No. 75
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35 SEQ ID No. 76
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40 SEQ ID No. 77
ccagcagatgtcgaccccaag

SEQ ID No. 78
cagtgaactccatctcgccatcac

45 SEQ ID No. 79
TCCGTGGCGTCACCTTCC

50 SEQ ID No. 80
CAGATGGCGATGTGGTAGTC

SEQ ID No. 81
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	GIQIGHAGRKASCVAPWLDAAGLAAEKAAGGWPDVVGPSNEPFAPGYPTPRAITLEEIEQLKEDFVSGVRRAVEAGFD	
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SEQ ID No. 85
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 20 QTVELAKMLQEARVDLLDVSSGLLVPQKITVGAGYQLFGAKAVRDALAKIEPDASKRMLVGAVGMMEGSYDSPNGQD
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SEQ ID No. 86
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SEQ ID No. 87
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 35 AEKILANGEADAVLLGRELLRNPSWAQHAARELGVDAWMPDQYWGWM

SEQ ID No. 88
 40 MTVSSAAPQPASPAAPLLFTPLKLRSLLELPNRVVSPMCTYSATDGVANEFLVHLGQYALGGAGLILAEATAVSPE
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SEQ ID No. 89
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SEQ ID No. 90
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10 SEQ ID No. 92

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15

SEQ ID No.

15 MTIESTNSFVVPSDTKLIDVTPLGSTKLFOPIKVGNVLPQRIAYVPTTRFRASKDHIPSDLQLNYYNARSQYPGTLI
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 LLRVVDKLI E VVGA NRLA RLSPWASFQGMEIEGEEIHSYILOQLQQRADNGQQLAYISLVEPRVTGIVDVS LKDQOG
 RSNEFAYKIWKGNFIRAGNYTYDAPEFKTLLNDNRTIVGFARFFTSNPDLVEKLKGKPLNYYNREEFYKYYNYGY
 NSYDESEKQVIGKPL

20

SEQ ID No. 94

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 AEYAAA A KNAVEAGFDGVEI H GANGYLI DQFLQDTCNQRTDEYGGSIENRSRFAHEVVKAVVEAVGA EKTGIRLSPYS
 TFOGMKMKKDLIPQFEDVIRKINGFGLAYLHTQSRVAGNMDVQPEEDEENLAFAAKLWDGPLLIA GGLT PETAKHLV
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25

SEQ ID No. 95

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SEQ ID No. 96

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 NPQHSITKDEIKQYIKEYVQA KNSIAAGADGVEIHSANGYLLNQFLDPHSNRTDEYGGSIENRARFTLEVVDAVVD
 AIGPEKVGRLRLSPYGVFNSMSGGAETGIVAQYAYVGELEKRAKAGKRLA FVHLVEPRVTNPFLTEGEYE EGGSNDF
 35 AYSIWKGPIIRAGN FALHPEVVREEVKD PRTLIGYGRFFISNPDLVDRLEKGLPLNKYDRDTFYKMSAEGYIDYPTYE
 EALKLGWDKN

35

SEQ ID No. 97.

35 MPFVKDFKPQALGDTNLFKPIKIGNTQLAHR AVM PPLTRMRATHPGNIPNKEWA A VYYGQRAQRPGTMIITEGTFISP
 M P FVKDFKPQALGDTNLFKPIKIGNTQLAHR AVM PPLTRMRATHPGNIPNKEWA A VYYGQRAQRPGTMIITEGTFISP
 QAGGYDNAPGIWSE D EQVA E WKNI F LAIHD CQS FAWVQLWLSLGWA SF PD VL A RDGLRYDCASDRV YMNA LQEKAKDAN
 50 NLEHSLTKDDIKQYIKA KNSIAAGADGVEIHSANGYLLNQFLDPHSNRTDEYGGTIE NRARFTLEVVDALIE
 TIGPERVGLRLSPYGT FNSMSGGAEPGIIAQYSV LGELEKRAKAGKRLA FVHLVEPRVTDP SLVEGEYESEG TNDF
 AYSIWKGPIIRAGN YALHPEVVREEVKD PRTLIGYGRFFISNPDLVDRLEKGLPLNKYDRDTFYKMSAEGYIDYPTYE
 EAVDLGWKN

45

SEQ ID No. 98

GCTAGCATGACTGTCGCCGATATCGA

55

SEQ ID No. 99

GCTAGCCTATA CATCGAAAATAGACTGC

SEQ ID No. 100
ACTAGTCCAGGGACTGTCGTGGTCAA

5 SEQ ID No. 101
CAATTGCCAGGCCTAATGCATGCTG